

Set	Items	Description
S1	28276	WRITE()ONCE OR WORM OR CD()R OR COMPACT() (DISK OR DISC)()R- ECORDABLE
S2	15135	MEMORY()CELL? ?
S3	806	UNPROGRAM?
S4	378682	PROGRAM?
S5	41926	OVER(N)WRIT? OR REWRIT? OR RE()WRIT? OR OVERWRIT?
S6	1737	S5 (10N) S1
S7	39513	(SWITCH?? OR SWITCHING OR SWITCHABLE OR SWITCHABILITY OR C- HANGE? ? OR CHANGING OR CHANGEABLE OR CHANGEABILITY OR SWAP OR SWAPPED OR SWAPPING) (10N) (S3 OR S4)
S8	2	S6 (30N) S7
S9	17	DESTRUCTIVE()PATTERN?
S10	1	S6 (30N) S9
S11	2240	S5 (30N) S1
S12	10	S11 (30N) S2
S13	7	S12 NOT (S8 OR S10)
S14	7	IDPAT (sorted in duplicate/non-duplicate order)
S15	7	IDPAT (primary/non-duplicate records only)
S16	133298	DELETE? ? OR DELETING OR ERASE? ? OR ERASING OR ERASABLE
S17	389	S11 (30N) S16
S18	203	S6 (30N) S16
S19	146	S6 (10N) S16
S20	11	S19 AND IC=G06F
S21	11	S20 NOT (S8 OR S10 OR S15)
S22	11	IDPAT (sorted in duplicate/non-duplicate order)
S23	11	IDPAT (primary/non-duplicate records only)
S24	464	(DESTRUCTIVE OR DESTROY?) (2N) (PATTERN OR BIT? ? OR BYTE? ?)
S25	0	S6 (10N) S24
S26	1	S11 (30N) S24

File 348:EUROPEAN PATENTS 1978-2006/MAR

File 349:PCT FULLTEXT 1979-2006/UB=20060309,UT=20060302

(c) 2006 WIPO/Univentio

Set	Items	Description
S1	38320	WRITE()ONCE OR WORM OR CD()R OR COMPACT()(DISK OR DISC)()R- ECORDABLE
S2	58499	MEMORY()CELL? ?
S3	229	UNPROGRAM?
S4	593918	PROGRAM?
S5	48242	OVER(N)WRIT? OR REWRIT? OR RE()WRIT? OR OVERWRIT?
S6	35137	(SWITCH?? OR SWITCHING OR SWITCHABLE OR SWITCHABILITY OR C- HANGE? ? OR CHANGING OR CHANGEABLE OR CHANGEABILITY OR SWAP OR SWAPPED OR SWAPPING)(10N)(S3 OR S4)
S7	101256	DELETE? ? OR DELETING OR ERASE? ? OR ERASING OR ERASABLE
S8	176	(DESTRUCTIVE OR DESTROY?)(2N)(PATTERN OR BIT? ? OR BYTE? ?)
S9	2837	S5 AND S1
S10	5	S9 AND S6
S11	5	IDPAT (sorted in duplicate/non-duplicate order)
S12	5	IDPAT (primary/non-duplicate records only)
S13	10	S9 AND S2
S14	9	S13 NOT S12
S15	9	IDPAT (sorted in duplicate/non-duplicate order)
S16	8	IDPAT (primary/non-duplicate records only)
S17	128	S9 AND (S7 OR S8)
S18	128	S9 AND S7
S19	22	S18 AND IC=G06F
S20	20	S19 NOT (S12 OR S16)
S21	20	IDPAT (sorted in duplicate/non-duplicate order)
S22	20	IDPAT (primary/non-duplicate records only)
S23	2	S9 AND S8
S24	2	S23 NOT S22
S25	48	S6 AND S1
S26	2	S25 AND S2
S27	1	S26 NOT (S12 OR S16 OR S22 OR S24)

? show files

File 347:JAPIO Nov 1976-2005/Nov(Updated 060302)

(c) 2006 JPO & JAPIO

File 350:Derwent WPIX 1963-2006/UD,UM &UP=200617

(c) 2006 Thomson Derwent

16/5/7 (Item 7 from file: 350)
 DIALOG(R) File 350:Derwent WPIX
 (c) 2006 Thomson Derwent. All rts. reserv.

014595355 **Image available**
 WPI Acc No: 2002-416059/200244
 XRPX Acc No: N02-327361

Data storage in write - once memory of digital camera, involves writing into specific number of memory cells being less than minimum number of writeable cells

Patent Assignee: MATRIX SEMICONDUCTOR INC (MATR-N); BROWN D T (BROW-I); JOHNSON M G (JOHN-I); LEE T H (LEET-I); MARCH R W (MARC-I); MOORE C S (MOOR-I)

Inventor: BROWN D T; JOHNSON M G; LEE T H; MARCH R W; MOORE C S

Number of Countries: 096 Number of Patents: 018

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200223341	A1	20020321	WO 2001US41585	A	20010806	200244 B
AU 200185409	A	20020326	AU 200185409	A	20010806	200251
US 20030018871	A1	20030123	US 2000662953	A	20000915	200310
			US 2000748589	A	20001222	
			US 2002253022	A	20020923	
US 20030023820	A1	20030130	US 2000662953	A	20000915	200311
			US 2000748589	A	20001222	
			US 2002253048	A	20020923	
US 20030023821	A1	20030130	US 2000662953	A	20000915	200311
			US 2000748589	A	20001222	
			US 2002253163	A	20020923	
US 20030023828	A1	20030130	US 2000662953	A	20000915	200311
			US 2000748589	A	20001222	
			US 2002253049	A	20020923	
US 20030028717	A1	20030206	US 2000662953	A	20000915	200313
			US 2000748589	A	20001222	
			US 2002253218	A	20020923	
US 20030028734	A1	20030206	US 2000662953	A	20000915	200313
			US 2000748589	A	20001222	
			US 2002253089	A	20020923	
US 20030120858	A1	20030626	US 2000662953	A	20000915	200343
			US 2000748589	A	20001222	
US 6651133	B2	20031118	US 2000662953	A	20000915	200376
			US 2000748589	A	20001222	
			US 2002253218	A	20020923	
US 6647471	B2	20031111	US 2000662953	A	20000915	200382
			US 2000748589	A	20001222	
			US 2002253089	A	20020923	
US 6694415	B2	20040217	US 2000662953	A	20000915	200413
			US 2000748589	A	20001222	
			US 2002253022	A	20020923	
US 6697928	B2	20040224	US 2000662953	A	20000915	200415
			US 2000748589	A	20001222	
			US 2002253163	A	20020923	
US 6738883	B2	20040518	US 2000662953	A	20000915	200433
			US 2000748589	A	20001222	
			US 2002253049	A	20020923	
US 20040177229	A1	20040909	US 2000662953	A	20000915	200459
			US 2000748589	A	20001222	
			US 2002253049	A	20020923	
			US 2004806826	A	20040322	
US 20040206982	A1	20041021	US 2000662953	A	20000915	200470
			US 2000748589	A	20001222	
			US 2004840815	A	20040506	
US 6820185	B2	20041116	US 2000662953	A	20000915	200475
			US 2000748589	A	20001222	
			US 2002253048	A	20020923	
US 6925545	B2	20050802	US 2000662953	A	20000915	200550

US 2000748589 A 20001222
 US 2002253049 A 20020923
 US 2004806826 A 20040322

Priority Applications (No Type Date): US 2000748589 A 20001222; US 2000662953 A 20000915; US 2002253022 A 20020923; US 2002253048 A 20020923; US 2002253163 A 20020923; US 2002253049 A 20020923; US 2002253218 A 20020923; US 2002253089 A 20020923; US 2004806826 A 20040322; US 2004840815 A 20040506

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200223341 A1 E 52 G06F-011/08

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200185409	A	G06F-011/08	Based on patent WO 200223341
US 20030018871	A1	G06F-012/00	CIP of application US 2000662953
			Div ex application US 2000748589
US 20030023820	A1	G06F-012/00	CIP of application US 2000662953
			Div ex application US 2000748589
US 20030023821	A1	G06F-012/00	CIP of application US 2000662953
			Div ex application US 2000748589
US 20030023828	A1	G06F-012/00	CIP of application US 2000662953
			Div ex application US 2000748589
US 20030028717	A1	G06F-012/00	CIP of application US 2000662953
			Div ex application US 2000748589
US 20030028734	A1	G06F-012/00	CIP of application US 2000662953
			Div ex application US 2000748589
US 20030120858	A1	G06F-012/00	CIP of application US 2000662953
US 6651133	B2	G06F-012/00	CIP of application US 2000662953
			Div ex application US 2000748589
US 6647471	B2	G06F-011/08	CIP of application US 2000662953
			Div ex application US 2000748589
US 6694415	B2	G06F-012/16	CIP of application US 2000662953
			Div ex application US 2000748589
US 6697928	B2	G06F-012/02	CIP of application US 2000662953
			Div ex application US 2000748589
US 6738883	B2	G06F-012/02	CIP of application US 2000662953
			Div ex application US 2000748589
US 20040177229	A1	G06F-012/00	CIP of application US 2000662953
			Div ex application US 2000748589
			Div ex application US 2002253049
			Div ex patent US 6738883
US 20040206982	A1	H01L-031/072	CIP of application US 2000662953
			Cont of application US 2000748589
US 6820185	B2	G06F-012/00	CIP of application US 2000662953
			Div ex application US 2000748589
US 6925545	B2	G06F-012/02	CIP of application US 2000662953
			Div ex application US 2000748589
			Div ex application US 2002253049
			Div ex patent US 6738883

Abstract (Basic): WO 200223341 A1

NOVELTY - An indication regarding the minimum number of writeable **memory cells**, is sent from a **write - once** memory device (200) to a file system. Data are written into specific number of **memory cells** being less than the indicated number. Similarly data are written into another **write - once** memory, based on the indication sent from it.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (a) Data **overwriting** method in a memory;
- (b) File storage method in a memory device;
- (c) File storage method in a contiguous set of **memory cells**;

- (d) **Memory cell** positioning method in **write - once** memory device;
- (e) File system structure writing method of two file systems into a partition of **memory cells** ;
- (f) Memory device comprising partition of **memory cells** ;
- (g) Permanent modification prevention method of a partition of memory device;
- (h) **Memory cell** identification method;
- (i) **Write - once** memory device;
- (j) Data storage and error checking and correction method;
- (k) Three-dimensional electronic memory device;
- (l) Error checking and correcting bit storage system in three dimensional array of **memory cells**

USE - For writing data into **write - once** memory e.g. CDROM, CD-RW, used in digital camera, personal digital assistant, game player, cellular telephone, electronic book, general purpose programmable computer and digital audio player.

ADVANTAGE - Even the smallest writeable unit is taken care by the file system itself. Maintains alignment between the file structure.

DESCRIPTION OF DRAWING(S) - The figure shows block diagram of memory device with embedded error checking and correcting code circuitry.

Write - once memory device (200)

pp; 52 DwgNo 11/11

Title Terms: DATA; STORAGE; WRITING; MEMORY; DIGITAL; CAMERA; WRITING; SPECIFIC; NUMBER; MEMORY; CELL; LESS; MINIMUM; NUMBER; CELL

Derwent Class: T01; U14

International Patent Class (Main): G06F-011/08; G06F-012/00; G06F-012/02; G06F-012/16; H01L-031/072

International Patent Class (Additional): G06F-017/30

File Segment: EPI

16/5/8 (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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014415895 **Image available**
WPI Acc No: 2002-236598/200229
XRPX Acc No: N02-181916

Data storage device for digital camera, has memory cells with thin film barriers that are damaged on applying write potentials

Patent Assignee: HEWLETT-PACKARD CO (HEWP)

Inventor: ANTHONY T C; PERNER F A

Number of Countries: 031 Number of Patents: 008

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6324093	B1	20011127	US 2000663016	A	20000915	200229 B
EP 1189239	A2	20020320	EP 2001307834	A	20010914	200229
JP 2002117684	A	20020419	JP 2001281128	A	20010917	200243
CN 1345071	A	20020417	CN 2001125424	A	20010815	200248
KR 2002021614	A	20020321	KR 200156695	A	20010914	200264
TW 511089	A	20021121	TW 2001115268	A	20010622	200353
EP 1189239	B1	20050824	EP 2001307834	A	20010914	200556
DE 60112860	E	20050929	DE 112860	A	20010914	200564
			EP 2001307834	A	20010914	

Priority Applications (No Type Date): US 2000663016 A 20000915

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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US 6324093	B1		14	G11C-011/14	
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EP 1189239	A2 E			G11C-017/00	
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Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT

LI LT LU LV MC MK NL PT RO SE SI TR

JP 2002117684	A		10	G11C-013/00	
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CN 1345071	A			G11C-017/00	
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KR 2002021614	A			G11C-011/15	
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TW 511089	A			G11C-017/00	
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EP 1189239	B1 E			G11C-017/00	
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Designated States (Regional): DE FR GB

DE 60112860	E			G11C-017/00	Based on patent EP 1189239
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Abstract (Basic): US 6324093 B1

NOVELTY - The **memory cells** (110) have thin film barriers which are damaged, when the write potentials are applied to the **memory cells** by a current mode sense amplifier (218).

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for memory writing method in data storage device.

USE - E.g. magnetic random access memory (MRAM) and polymer memory for permanently storing key chip information such as chip manufacture ID, access code, error maps, by including **write - once** digital film for digital camera, **write - once** digital audio storage, **write - once** user ID fields for passwords or security, program code storage, etc.

ADVANTAGE - Has lower voltage application which results in less structural damage and higher reliability. A simpler design for read circuits for **write - once** memory can be achieved by mixing **write - once** and **rewritable memory cells**. **Write - once** thin film memory has robust read operation.

DESCRIPTION OF DRAWING(S) - The figure shows a data storage device having **memory cells**.

Memory cells (110)

Current mode sense amplifier (218)

pp; 14 DwgNo 7/9

Title Terms: DATA; STORAGE; DEVICE; DIGITAL; CAMERA; MEMORY; CELL; THIN; FILM; BARRIER; DAMAGE; APPLY; WRITING; POTENTIAL

Derwent Class: U14

International Patent Class (Main): G11C-011/14; G11C-011/15; G11C-013/00;

G11C-017/00
International Patent Class (Additional): G11C-017/16
File Segment: EPI

22/5/14 (Item 14 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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013706969 **Image available**

WPI Acc No: 2001-191193/200119

XRPX Acc No: N01-135908

Multiple times data writing method onto write - once read-many optical disc for host system, involves resetting disc sector written flag and flag fields to indicate sector available for writing

Patent Assignee: PLASMON IDE INC (PLAS-N)

Inventor: MACLEOD K; VINING R C

Number of Countries: 022 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200060593	A1	20001012	WO 2000US7631	A	20000322	200119 B
EP 1166268	A1	20020102	EP 2000918268	A	20000322	200209
			WO 2000US7631	A	20000322	
US 6377526	B1	20020423	US 99283050	A	19990401	200232

Priority Applications (No Type Date): US 99283050 A 19990401

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200060593 A1 E 29 G11B-020/12

Designated States (National): CN JP

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU
MC NL PT SE

EP 1166268 A1 E G11B-020/12 Based on patent WO 200060593

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI
LU MC NL PT SE

US 6377526 B1 G11B-007/00

Abstract (Basic): WO 200060593 A1

NOVELTY - The contents of a disc sector written flag and flag fields, are reset to indicate the sector available for writing by **overwriting** all the user data on the sector with a firmware flag set to zero such that each user data bit can be replaced with one without mapping.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (a) a multiple times data writing apparatus;
- (b) a **write - once** read-many (**WORM**) disc;
- (c) and a disc medium.

USE - For host system.

ADVANTAGE - **Erases** given data file on entire disc surface.

Enables writing of data on **erased** portion to conserve disc capacity.

Prevents standard disc input and output commands from **overwriting**

data on **WORM** disc. Replaces new data with old data. Conforms to

existing international standards with only slight modifications.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of a multiple times data writing apparatus.

pp; 29 DwgNo 1/5

Title Terms: MULTIPLE; TIME; DATA; WRITING; METHOD; WRITING; READ; OPTICAL;
DISC; HOST; SYSTEM; RESET; DISC; SECTOR; WRITING; FLAG; FLAG; FIELD;
INDICATE; SECTOR; AVAILABLE; WRITING

Derwent Class: T01; T03; W04

International Patent Class (Main): G11B-007/00; G11B-020/12

International Patent Class (Additional): **G06F-003/06** ; G11B-011/105;

G11B-019/12; G11B-027/32

File Segment: EPI

22/5/18 (Item 18 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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003824487

WPI Acc No: 1983-820734/198346

XRPX Acc No: N83-207291

**Reusing appts. for non-erasable memory medium e.g. paper tape - over
writes zero bits with binary ones in previously-read write-one bit
positions**

Patent Assignee: MASSACHUSETTS INST TECHNOLOGY (MASI); RIVEST R L
(RIVE-I)

Inventor: SHAMIR A

Number of Countries: 019 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 8303912	A	19831110				198346 B
EP 108053	A	19840516	EP 82901813	A	19820430	198421
US 4691299	A	19870901	US 83565210	A	19831229	198737

Priority Applications (No Type Date): WO 82US564 A 19820430; EP 82901813 A
19820430; US 83565210 A 19831229

Cited Patents: JP 55113137; US 3609708; US 3638185; US 3897626

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
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WO 8303912	A	E 55		
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Designated States (National): DE GB JP US

Designated States (Regional): AT BE CF CG CH CM DE FR GA GB LI LU NL SE
SN TD TG

EP 108053	A	E		
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Designated States (Regional): AT BE CF CG CH CM DE FR GA GB LI LU NL SE
SN TD TG

Abstract (Basic): WO 8303912 A

An input circuit element (10) such as a shift register converts serial input data into gps. of length k for application to a mapping or encoding circuit element (16), which is a ROM providing decoded and encoded data group outputs (18,20). The mapping element (16) must receive also any previously written codewords provided by a medium-reading circuit element (22), which reads gps. of data from the nonerasable medium (e.g. optical disc) (28) in clocked synchronism with a writing element (26).

The synchronisation enables the writing element (26) to **overwrite** existing binary zeros with new is at precise previously-read **write - once** bit positions. By writing four data bits in three such positions of the **write - once** memory (28), the method increases the storage capacity by one-third.

3/5

Title Terms: REUSE; APPARATUS; NON; **ERASE** ; MEMORY; MEDIUM; PAPER; TAPE;
WRITING; ZERO; BIT; BINARY; READ; WRITING; ONE; BIT; POSITION

Derwent Class: T01; T03; U14

International Patent Class (Additional): **G06F-007/26** ; G11C-013/00;

G11C-017/00

File Segment: EPI

Set	Items	Description
S1	30185	WRITE()ONCE OR WORM OR CD()R OR COMPACT() (DISK OR DISC) ()R- ECORDABLE
S2	16988	MEMORY()CELL? ?
S3	239	UNPROGRAM?
S4	3480808	PROGRAM?
S5	39805	OVER(N)WRIT? OR REWRIT? OR RE()WRIT? OR OVERWRIT?
S6	97428	(SWITCH?? OR SWITCHING OR SWITCHABLE OR SWITCHABILITY OR C- HANGE? ? OR CHANGING OR CHANGEABLE OR CHANGEABILITY OR SWAP OR SWAPPED OR SWAPPING) (10N) (S3 OR S4)
S7	72179	DELETE? ? OR DELETING OR ERASE? ? OR ERASING OR ERASABLE
S8	378	(DESTRUCTIVE OR DESTROY?) (2N) (PATTERN OR BIT? ? OR BYTE? ?)
S9	534	S5 AND S1
S10	0	S9 AND S6
S11	0	S9 AND S2
S12	105	S9 AND S7
S13	0	S9 AND S8
S14	6	S12 AND (S3 OR S4)
S15	5	S14 NOT PY>2000
S16	5	RD (unique items)
S17	27	S6 AND S1
S18	27	S17 NOT S16
S19	16	S18 NOT PY>2000
S20	15	RD (unique items)
File	8: Ei Compendex(R) 1970-2006/Mar W1	(c) 2006 Elsevier Eng. Info. Inc..
File	35: Dissertation Abs Online 1861-2006/Feb	(c) 2006 ProQuest Info&Learning
File	65: Inside Conferences 1993-2006/Mar 13	(c) 2006 BLDSC all rts. reserv.
File	2: INSPEC 1898-2006/Mar W1	(c) 2006 Institution of Electrical Engineers
File	94: JICST-EPlus 1985-2006/Dec W3	(c) 2006 Japan Science and Tech Corp (JST)
File	111: TGG Natl. Newspaper Index (SM) 1979-2006/Mar 03	(c) 2006 The Gale Group
File	6: NTIS 1964-2006/Feb W3	(c) 2006 NTIS, Intl Cpyrght All Rights Res
File	144: Pascal 1973-2006/Feb W3	(c) 2006 INIST/CNRS
File	434: SciSearch(R) Cited Ref Sci 1974-1989/Dec	(c) 1998 Inst for Sci Info
File	34: SciSearch(R) Cited Ref Sci 1990-2006/Mar W1	(c) 2006 Inst for Sci Info
File	62: SPIN(R) 1975-2006/Feb W3	(c) 2006 American Institute of Physics
File	99: Wilson Appl. Sci & Tech Abs 1983-2006/Feb	(c) 2006 The HW Wilson Co.
File	95: TEME-Technology & Management 1989-2006/Mar W1	(c) 2006 FIZ TECHNIK
File	56: Computer and Information Systems Abstracts 1966-2006/Feb	(c) 2006 CSA.
File	57: Electronics & Communications Abstracts 1966-2006/Feb	(c) 2006 CSA.

16/5/1 (Item 1 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2006 Institution of Electrical Engineers. All rts. reserv.

04938980 INSPEC Abstract Number: C91052795

Title: Optical storage media: a new market is forming

Author(s): Beuthner, A.

Journal: Funkschau no.8 p.53-5

Publication Date: 5 April 1991 Country of Publication: West Germany

CODEN: FUSHA2 ISSN: 0016-2841

Language: German Document Type: Journal Paper (JP)

Treatment: Applications (A)

Abstract: The well-established CD audio has spawned various applications of laser operated video, communications and computer systems. The CD-ROM (read only memory), now the leader, has been followed by the CD **WORM**, (**write once**, read many times), very useful to data archives, and the more interactive ROD or EOD systems permitting **rewriting** and **erasing**. When applying data reduction techniques, a 12 cm diameter disc with a 650 Mbyte capacity will record 1 hour-long TV **program**. (0 Refs)

Subfile: C

Descriptors: optical disc storage

Identifiers: video systems; communication systems; lasers; CD audio; computer systems; CD-ROM; CD **WORM**; data archives; data reduction techniques; 650 MByte

Class Codes: C5320K (Optical storage)

Numerical Indexing: memory size 6.8E+08 Byte

16/5/2 (Item 2 from file: 2)

DIALOG(R)File 2:INSPEC

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04625351 INSPEC Abstract Number: B90029392, C90034341

Title: WORM disk drive systems

Author(s): Storey, P.A.

Conference Title: IEE Colloquium on 'Data Storage Technology' (Digest No.032) p.6/1-3

Publisher: IEE, London, UK

Publication Date: 1990 Country of Publication: UK 42 pp.

Conference Sponsor: IEE

Conference Date: 13 Feb. 1990 Conference Location: London, UK

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: **Write once** read many systems use optical disks onto which data is permanently written using a focussed laser beam. At the physical sector level on the disk, data can only be written once and cannot be **erased** and then **rewritten**. This is the great advantage of **WORM** technology for many applications: data cannot be accidentally **erased**. Many **WORM** sub-systems, however, are available with 'transparent' software which makes the **write once** optical disk appear to the operating system exactly like a **rewritable** hard disk. This means that standard application **programs** can be used with **WORM** storage without the need for any software modification. When a file deletion command is issued by the operating system, that file is simply made invisible. Good software packages include utilities which allow retrieval of **deleted** files and old versions of files. The author looks at **WORM** systems. (0 Refs)

Subfile: B C

Descriptors: optical disc storage

Identifiers: disk drive systems; optical disks; **WORM** technology; **WORM** storage; software packages

Class Codes: B4180 (Optical logic devices and optical computing techniques); C5320K (Optical storage)

20/5/3 (Item 3 from file: 8)

DIALOG(R)File 8: Ei Compendex(R)

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02270388 E.I. Monthly No: EIM8709-058027

Title: WRITE - ONCE PHASE-CHANGE RECORDING IN GaSb.

Author: v. Tongeren, H.; Sens, M.

Corporate Source: Philips & DuPont Optical, Eindhoven, Neth

Conference Title: Topical Meeting on Optical Data Storage - Summaries of Papers.

Conference Location: Stateline, NV, USA **Conference Date:** 19870311

Sponsor: IEEE Lasers & Electro-Optics Soc, New York, NY, USA; Optical Soc of America, Washington, DC, USA; SPIE, Bellingham, WA, USA

E.I. Conference No.: 09982

Source: Publ by Optical Soc of America (Technical Digest Series v 10), Washington, DC, USA p 50-53

Publication Year: 1987

ISBN: 0-936659-45-9

Language: English

Document Type: PA; (Conference Paper)

Journal Announcement: 8709

Abstract: Media based on phase-change recording of GaSb show good performance for recording of EFM-modulated data under the standard conditions of the compact disc (CD) system. Furthermore, the recording material allows a simple disc construction similar to the CD disc which is available in the market. It is concluded that a medium based on GaSb is a good candidate for application as CD PROM medium, a **write - once** version of CD ROM. 3 refs.

Descriptors: *DATA STORAGE, OPTICAL--*Materials; DATA STORAGE, DIGITAL--Fixed; RECORDING

Identifiers: **WRITE - ONCE PHASE- CHANGE MEDIA**; EFM-MODULATED DATA RECORDING; COMPACT DISK (CD) **PROGRAMMABLE READ-ONLY MEMORY (PROM)**; GALLIUM ANTIMONY SENSITIVE LAYER

Classification Codes:

741 (Optics & Optical Devices); 722 (Computer Hardware)

74 (OPTICAL TECHNOLOGY); 72 (COMPUTERS & DATA PROCESSING)

20/5/12 (Item 5 from file: 56)

DIALOG(R)File 56:Computer and Information Systems Abstracts
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0000259023 IP ACCESSION NO: 0150864

WORM -2DPDAs: An extension to 2DPDAs that can be simulated in linear time

Mogensen, Torben A E
Universitetsparken, Copenhagen O, Den

Information Processing Letters, v 52, n 1, p 15-22, 1994
PUBLICATION DATE: 1994

PUBLISHER: Elsevier Science BV, P.O. Box 211, Amsterdam, 1000 AE
COUNTRY OF PUBLICATION: Netherlands
PUBLISHER URL: <http://www.elsevier.com>
PUBLISHER EMAIL: w.tukker@elsevier.nl

DOCUMENT TYPE: Journal Article
RECORD TYPE: Abstract
LANGUAGE: English
ISSN: 0020-0190
FILE SEGMENT: Computer & Information Systems Abstracts

ABSTRACT:

We extend 2-way deterministic push-down automata (2DPDAs) with a **write - once** -read-many (**WORM**) store. We show that it allows linear time simulation by a variant of Cook's construction. As an example we develop a linear time algorithm that recognizes the language $\{W \text{ super}(-1)WW \text{ super}(-1) \mid V, W \text{ IMOS } (a \mid b)^*\}$, that by Aho, Hopcroft and Ullman is conjectured not to be recognizable by a 2DPDA. Thus we believe that the extension strictly increases the expressive power of 2DPDAs.

DESCRIPTORS: Algorithms; Computer programming languages; Computer simulation; Data storage equipment; Software engineering
IDENTIFIERS: Two way deterministic push down automata (2DPDAs); Linear time simulation; Cook's construction; Program derivation; Memorization tables
SUBJ CATG: C 721.1, Computer Theory (Includes Formal Logic, Automata Theory, **Switching** Theory, **Programming** Theory); C 723.1, Computer Programming; C 723.1.1, Computer Programming Languages; C 723.5, Computer Applications; C 722.1, Data Storage (Equipment and Techniques

20/5/15 (Item 8 from file: 56)
DIALOG(R)File 56:Computer and Information Systems Abstracts
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0000187042 IP ACCESSION NO: 2336816
Programmable synaptic devices for electronic neural nets

MOOPENN, A; THAKOOR, A P
JPL, Pasadena, CA [MOOPENN]

Control and Computers, v 18, n 2, p 37-41, 1990
PUBLICATION DATE: 1990

CONFERENCE:
, UNITED STATES

DOCUMENT TYPE: Journal Article
RECORD TYPE: Abstract
LANGUAGE: ENGLISH; English
NOTES: Research sponsored by the Joint Tactical Fusion Program Office,
DARPA, and SDIO
NO. OF REFS.: 19
FILE SEGMENT: Computer & Information Systems Abstracts

ABSTRACT:

The architecture, design, and operational characteristics of custom VLSI and thin film synaptic devices are described. The devices include CMOS-based synaptic chips containing 1024 reprogrammable synapses with a 6-bit dynamic range, and nonvolatile, **write - once**, binary synaptic arrays based on memory switching in hydrogenated amorphous silicon films. Their suitability for embodiment of fully parallel and analog neural hardware is discussed. Specifically, a neural network solution to an assignment problem of combinatorial global optimization, implemented in fully parallel hardware using the synaptic chips, is described. The network's ability to provide optimal and near optimal solutions over a time scale of few neuron time constants has been demonstrated and suggests a speedup improvement of several orders of magnitude over conventional search methods. (Author)

DESCRIPTORS: *Amorphous silicon; *Cmos; *Neural nets; *Silicon films;
*Synapses; *Very large scale integration; Massively parallel processors;
Optimization; **Switching** circuits; Thin films; Architecture; Parallel
processing; **Programmable** logic circuits; Neural networks
IDENTIFIERS: very large scale integration
SUBJ CATG: C CA2.1, NEURAL NETWORKS

23/5,K/9 (Item 9 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00747197 **Image available**

**ERASABLE WORM OPTICAL DISK AND METHOD OF WRITING THERETO MULTIPLE TIMES
DISQUE OPTIQUE WORM EFFACABLE ET PROCEDE POUR EFFECTUER PLUSIEURS FOIS UNE
ECRITURE SUR UN TEL DISQUE**

Patent Applicant/Assignee:

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Inventor(s):

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MACLEOD Kent, 1321 Wagon Wheel Road, Hopkins, MN 55348, US

Legal Representative:

HELGET Gerald E, Rider, Bennett, Egan & Arundel, 333 S. Seventh Street,
2000 Metropolitan Centre, Minneapolis, MN 55402, US

Patent and Priority Information (Country, Number, Date):

Patent: WO 200060593 A1 20001012 (WO 0060593)
Application: WO 2000US7631 20000322 (PCT/WO US0007631)
Priority Application: US 99283050 19990401

Designated States:

(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)

CN JP

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MCNL PT SE

Main International Patent Class (v7): G11B-020/12

International Patent Class (v7): G11B-019/12; **G06F-003/06** ; G11B-011/105;
G11B-027/32; G11B-007/00

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description
Claims

Fulltext Word Count: 5852

English Abstract

Apparatus and method for selectively enabling writing of data multiple times onto a write-once read-many optical disk by a host system, the disk having a disk type indicator, and each sector having a SWF field and a flag field and user data, wherein new data bits replace existing data bits in a one-for-one ratio without mapping. The apparatus comprises an optical disk drive having: a spindle motor rotating an optical disk; an optical assembly/laser generating a laser beam adapted to heat a minute region on the optical disk; a bias magnet affecting the polarity of the heated region; a write/read channel driving the optical assembly/laser and bias magnet; a write/read controller adapted to process a unique erase command and thereby controlling the optical assembly/laser and bias magnet to write every user data bit of a sector to zero in a one-for-one ratio without mapping; and a small computer system interface receiving write commands from a host system.

French Abstract

L'invention concerne un dispositif et un procede permettant la realisation repetee, de maniere selective, d'une ecriture de donnees sur un disque optique WORM par un systeme hote, le disque ayant un indicateur de type de disque, et chaque secteur presentant un champ SWF, un champ indicateur et des donnees utilisateur, les nouveaux bits de donnees remplaçant les bits de donnees existants dans un rapport de un a un sans correspondances. Le dispositif comprend une unite de disque optique pourvue d'un moteur a axe faisant tourner un disque optique, d'un ensemble/laser optique produisant un faisceau laser permettant de chauffer une region minuscule sur le disque optique, d'un aimant de polarisation modifiant la polarite de la region chauffee, d'un canal ecriture/lecture servant a commander ledit ensemble/laser optique et

l'aimant de polarisation, d'une commande ecriture/lecture adaptee de facon a traiter une commande d'effacement unique et commandant ainsi ledit ensemble/laser optique et l'aimant de polarisation afin de ramener chaque bit de donnees utilisateur d'un secteur a zero dans un rapport de un a un sans correspondances, et d'une petite interface de systeme informatique recevant les commandes d'ecriture depuis un systeme hote.

Legal Status (Type, Date, Text)

Publication 20001012 A1 With international search report.

Publication 20001012 A1 Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

Examination 20010712 Request for preliminary examination prior to end of 19th month from priority date

...International Patent Class (v7): **G06F-003/06**

Fulltext Availability:

Detailed Description

Detailed Description

... disk products available in the market fit into three categories: magneto-optic, which are writable, **erasable**, and **re - writable**; CCW **WORM**, which is a **write - once** version of magneto-optic; and ablative (or pennant) **WORM**, which physically alters the recording layer... advantage of the present invention is that it prevents standard disk input/output commands from **overwriting** data on a **WORM** disk, while allowing data on the **WORM** disk to be **erased** when special disk input/output commands are issued to the optical disk drive.

Another principal...of a sector (Fig. 4). It is this disk type that indicates the disk is **WORM**, and is in effect a coded **rewrite** -protect switch. The proposed new **erasable WORM** media would have this byte set to a new value of "erasable **WORM**".

This disk...

10/5,K/1 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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not good date

00889202 **Image available**

MEMORY DEVICES AND METHODS FOR USE THEREWITH

DISPOSITIFS MEMOIRE ET PROCEDES D'UTILISATION CORRESPONDANTS

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Legal Representative:

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Patent and Priority Information (Country, Number, Date):

Patent: WO 200223341 A1 20020321 (WO 0223341)

Application: WO 2001US41585 20010806 (PCT/WO US0141585)

Priority Application: US 2000662953 20000915; US 2000748589 20001222

Designated States:

(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)

AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ
EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL
TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class (v7): G06F-011/08

International Patent Class (v7): G06F-012/00

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 12594

English Abstract

The preferred embodiments described herein provide a memory device and methods for use therewith. In one preferred embodiment, a memory device (200) is provided having error checking and correcting code circuitry (220) which generates at least one ECC bit based upon at least one data bit and stores them both in the memory cells of the device. The memory device may be either a write-once memory device, a three-dimensional electronic memory device, or both.

French Abstract

Les modes de realisation preferes de cette invention se rapportent a un dispositif memoire et a des procedes de mise en oeuvre associes. Dans un mode de realisation prefere, un dispositif memoire (200) est dote de circuits (220) a code de controle et de correction des erreurs qui generent au moins un bit ECC en fonction d'au moins un bit de donnees et stockent ces deux bits dans les cellules de memoire du dispositif. Ce dispositif memoire peut etre soit un dispositif memoire a ecriture unique, soit un dispositif memoire electronique tridimensionnel, soit encore un dispositif comportant les deux types de dispositif memoire precedents.

Legal Status (Type, Date, Text)

Publication 20020321 A1 With international search report.

Fulltext Availability:
Detailed Description

Detailed Description

... respond to variability in an indicated minimum number of memory cells of first and second **write - once** memory devices. In another preferred embodiment, a method for **overwriting** data in a memory device is described in which an error code is disregarded after a **destructive pattern** is written. In yet another preferred embodiment, a method is presented in which, after a...

15/5,K/3 (Item 3 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00270802

Semiconductor memory device having shared bit lines.

Halbleiterspeicheranordnung mit geteilten Bitleitungen.

Dispositif de memoire a semi-conducteurs ayant des lignes de bit partagees.

PATENT ASSIGNEE:

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Kanagawa 211, (JP), (applicant designated states: DE;FR;GB)

INVENTOR:

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Khono, Tool, 2-8-16, Kamishinjo Nakahara-ku, Kawasaki-shi Kanagawa 211,
(JP)

LEGAL REPRESENTATIVE:

Billington, Lawrence Emlyn et al (28331), HASELTINE LAKE & CO Hazlitt
House 28 Southampton Buildings Chancery Lane, London WC2A 1AT, (GB)

PATENT (CC, No, Kind, Date): EP 260983 A2 880323 (Basic)

EP 260983 A3 900829

EP 260983 B1 920401

APPLICATION (CC, No, Date): EP 87308270 870918;

PRIORITY (CC, No, Date): JP 86218170 860918

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS (V7): G11C-007/00; G11C-008/00;

CITED PATENTS (EP A): US 4162540 A; US 4281401 A; DE 3533870 A

CITED REFERENCES (EP A):

IEEE JOURNAL OF SOLID-STATE CIRCUITS, vol. SC-19, no. 5, October 1984,
pages 585-590, IEEE, New York, US; R.A. KERTIS et al.: "A 60 ns 256Kx1
bit DRAM using LD3 technology and double-level metal interconnection"
IEEE JOURNAL OF SOLID-STATE CIRCUITS, vol. SC-20, no. 5, October 1985,
IEEE, New York, US; M. KUMANOYA et al.: "A reliable 1-Mbit DRAM with a
multi-bit-test mode";

ABSTRACT EP 260983 A2

In a semiconductor memory device including a write data transfer unit (SR); a plurality of groups of sense amplifiers (SA0, SA1 ..); a plurality of word lines (WL0,WL1,..WL0(')..); a plurality of pairs of bit lines (BL00, BL00; BL01, ... BL20,BL20), each of the pairs of bit lines comprising a pair of inside bit lines (e.g. BL00, BL00) extending between the write data transfer unit (SR) and one of the sense amplifiers (e.g.SA0), and a pair of outside bit lines (e.g. BL00, BL00) extending from one of the sense amplifiers (e.g. SA0) to the side opposite to the side of the write data transfer unit (SR); a plurality of memory cells (e.g.MC00) connected between the word lines (WL0) and the pairs of bit lines (e.g.BL00, BL00), respectively, the drive timing of a selected group of sense amplifiers connected to selected pairs of bit lines on which the transfer of the write data is being performed is delayed when compared with the drive timing of the sense amplifiers connected to remaining pairs of bit lines on which the transfer of the write data is not being performed, when the write data is transferred from the write data transfer unit (SR) to memory cells connected to selected outside bit lines connected to the selected group of sense amplifiers.

Further, it is also possible to stop the drive of the selected group of sense amplifiers connected to the selected pairs of bit lines on which the transfer of the write data is being performed, instead of delaying the drive timing of the selected group of sense amplifiers.

ABSTRACT WORD COUNT: 267

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 880323 A2 Published application (A1with Search Report
;A2without Search Report)

Search Report: 900829 A3 Separate publication of the European or
International search report

Examination: 901212 A2 Date of filing of request for examination:
901019

Examination: 910821 A2 Date of despatch of first examination report:
910704
Grant: 920401 B1 Granted patent
Oppn None: 930324 B1 No opposition filed
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPBBF1	1239
CLAIMS B	(German)	EPBBF1	1043
CLAIMS B	(French)	EPBBF1	1242
SPEC B	(English)	EPBBF1	8676
Total word count - document A			0
Total word count - document B			12200
Total word count - documents A + B			12200

...SPECIFICATION problem, the above read refresh operation is required for the memory cells connected to the **columns** **where** the data write operation is not performed, by which read refresh operation data stored in the **memory cells** connected to the **columns** **where** the data write operation is not performed **is** **once** amplified by the corresponding sense amplifiers and then, the above amplified data is rewritten to each of the **corresponding memory cell**.

In this connection, **essentially no** problem arises in such a partial write operation for the selected part of **memory cells** connected to the **selected word** line and the selected one of groups of the pairs of inside bit lines. Namely...

15/5,K/7 (Item 7 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00532175 **Image available**

**DATA STORAGE AND PROCESSING APPARATUS, AND METHOD FOR FABRICATING THE SAME
APPAREIL DE STOCKAGE ET DE TRAITEMENT DE DONNEES ET PROCEDE DE FABRICATION
DUDIT APPAREIL**

Patent Applicant/Assignee:

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LEISTAD Geirr I,
CARLSSON Johan,
GUSTAFSSON Goran,

Inventor(s):

GUDESEN Hans Gude,
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LEISTAD Geirr I,
CARLSSON Johan,
GUSTAFSSON Goran,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9963527 A2 19991209
Application: WO 99N0181 19990602 (PCT/WO NO9900181)
Priority Application: NO 982518 19980602

Designated States:

(Protection type is "patent" unless otherwise stated - for applications prior to 2004)

AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH HR
HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX
NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW
GH GM KE LS MW SD SL SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE
DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW ML MR
NE SN TD TG

Main International Patent Class (v7): G11B

Publication Language: English

Fulltext Availability:

Detailed Description
Claims

Fulltext Word Count: 9521

English Abstract

A data storage and processing apparatus comprising ROM and/or WORM and/or REWRITEABLE memory modules and/or processing modules on a substrate. The memory and/or processing modules are provided as a single main layer or multiple main layers on the top of the substrate. The apparatus comprises active components in the form of transistors and/or diodes for operating the apparatus. In one set of embodiments at least some and at most all the transistors and/or diodes for operating the apparatus are provided on or in the substrate. In another set of embodiments at least some and at most all of the layers on the top of the substrate comprise low-temperature compatible organic materials and/or low temperature compatible processed inorganic films, even without requiring transistors and/or diodes to be provided on or in the substrate. In a method for fabricating a data storage and processing apparatus of this kind, the memory and/or processing modules are provided on the substrate by depositing the layers in successive steps. The deposition and processing of the layers take place under thermal conditions that avoid subjecting an already deposited and processed underlying layer or layers to static or dynamic temperatures exceeding given stability limits, particularly in regard of organic materials.

French Abstract

L'invention concerne un appareil de stockage et de traitement de donnees equipe de modules de memoire morte (ROM) et/ou non reinscriptible (WORM)

et/ou reinscriptible, et/ou des modules de traitement disposés sur un substrat. Les modules de mémoire et/ou de traitement se présentent sous la forme d'une ou plusieurs couches principales disposées sur le substrat. L'appareil comprend des composants actifs sous forme de transistors et/ou de diodes qui assurent son fonctionnement. Dans certaines formes de réalisation, au moins quelques-unes ou toutes les couches disposées sur le substrat contiennent des matières organiques supportant de faibles températures et/ou des films inorganiques traités supportant de faibles températures, même en l'absence de transistors et/ou de diodes sur ou dans le substrat. Dans un procédé de fabrication d'un appareil de stockage et de traitement de données de l'invention, les modules de mémoire et/ou de traitement sont disposés sur le substrat par dépôt des couches en étapes successives. Le dépôt et le traitement des couches s'effectuent dans des conditions thermiques qui permettent d'éviter de soumettre une ou des couches sous-jacentes déjà déposées et traitées à des températures statiques ou dynamiques excédant des limites de stabilité données, en ce qui concerne en particulier les matières organiques.

Fulltext Availability:
Detailed Description
Claims

Detailed Description

... cost

manufacturing, technologies.

It is a further object of the present invention to provide ROM, **WORM**, and

REWRITABLE memory devices with short random access times, high data transfer rates and low power consumption. In the present document, the term

" **REWRITABLE** " shall be used in connection with **memory cells** where information that has been stored can be exchanged by new information through an erase...

Claim

... to claim 9, characterized in that at least one of the memory modules is a **WORM**.

23 Apparatus according to claim 9, characterized in that at least one of the memory modules comprises **memory cells** of the **REWRITEABLE** type.

24 Apparatus according to claim 9, characterized in that one or more memory modules comprising at least a combination of two different memory types in the form of ROM, **WORM** and **REWRITEABLE** are integrated into at least one main layer in a stack.

25 A method for fabricating a data storage and processing apparatus comprising a ROM and/or **WORM** and/or **REWRITEABLE** memory modules and/or processing modules on a substrate, wherein the memory and/or data

23/5,K/1 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00360504

Managing data storage space on large capacity record media.

Behandlung eines Datenspeicherraums auf einem Aufzeichnungsträger mit grosser Kapazität.

Exploitation de l'espace de memorisation de donnees sur des supports d'enregistrement a grande capacite.

PATENT ASSIGNEE:

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Means, Rodney Jerome, 6988 E. Calle Cerca, Tucson Arizona 85715, (US)

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PATENT (CC, No, Kind, Date): EP 328240 A2 890816 (Basic)

EP 328240 A3 900912

EP 328240 B1 940608

APPLICATION (CC, No, Date): EP 89300172 890110;

PRIORITY (CC, No, Date): US 153673 880208

DESIGNATED STATES: DE; ES; FR; GB; IT

INTERNATIONAL PATENT CLASS (V7): G11B-020/12; **G06F-003/06**

CITED PATENTS (EP A): EP 212099 A; EP 223611 A

CITED REFERENCES (EP A):

EDN ELECTRICAL DESIGN NEWS. vol. 29, no. 20, October 1984, Boston,
Massachusetts, USA pages 165 - 174; Guy Thomsen: "Disk Controller
Supports Both Rigid and Floppy Drives"

Angewandte Informatik vol. 30, no. 2, February 1988, Wiesbaden, W.
Germany & Sonnenschein: "Ein Fileserver
mit UNIX-Schnittstelle für Echtzeitanwendungen"

IBM TECHNICAL DISCLOSURE BULLETIN. vol. 26, no. 5, October 1983, NEW YORK
US pages 2400 - 2403; J.K. Chou et al.: "Circular Scan of VTOC Usage
Map"

ELECTRONIC DESIGN. vol. 33, no. 16, July 1985, Schipol, The Netherlands
pages 39 - 100; Stephan Ohr: "Magneto-optics combines erasability and
high-density storage"

IBM TECHNICAL DISCLOSURE BULLETIN. vol. 30, no. 6, November 1987, NEW
YORK US pages 137 - 138; "Directory For Disk with Write-once Storage
Medium"

ELECTRONICS & WIRELESS WORLD. vol. 93, no. 1608, October 1986, SUTTON GB
pages 45 - 46; F. Stubbs: "IBM's PC filing system";

ABSTRACT EP 328240 A2

A large capacity data storing disk includes a volume table of contents (VTOC) which identifies allocated ones of data storage tracks and identification of the data contents therein, indications of unallocated data storage track and an indication of which of the data storage tracks on the large capacity disk surface are unformatted. The indications may also include indications of unallocated "erased" tracks that do not contain data residuals from previous recordings. Those unallocated tracks having such erased condition in a count key data record format (CKD) require a home address record on each of the formatted tracks. The home address record may include indications of rotational position of defects to be skipped over during the recording and readback operations. A specific embodiment of the invention using a magneto-optic record medium is described.

ABSTRACT WORD COUNT: 136

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 890816 A2 Published application (A1with Search Report
;A2without Search Report)

Search Report: 900912 A3 Separate publication of the European or
 International search report
 Change: 901024 A2 Representative (change)
 Examination: 910626 A2 Date of filing of request for examination:
 910429
 Examination: 921202 A2 Date of despatch of first examination report:
 921016
 Grant: 940608 B1 Granted patent
 Oppn None: 950531 B1 No opposition filed
 LANGUAGE (Publication,Procedural,Application): English; English; English
 FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPBBF1	1271
CLAIMS B	(English)	EPBBF1	592
CLAIMS B	(German)	EPBBF1	570
CLAIMS B	(French)	EPBBF1	685
SPEC A	(English)	EPBBF1	7096
SPEC B	(English)	EPBBF1	7122
Total word count - document A			8367
Total word count - document B			8969
Total word count - documents A + B			17336

...INTERNATIONAL PATENT CLASS (V7): **G06F-003/06**

...SPECIFICATION space which could be used for data storage. Also such
 media to date has been **write once** /read many (**WORM**). On the other
 hand, magnetooptic media is **rewritable** but currently requires that the
 previous recordings be **erased** before new data is recorded in any given
 data storing area.
 Therefore, to update a...

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 data storing area.
 Therefore, to update a...

23/5,K/2 (Item 2 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00273709

System for write once read many optical storage devices to appear rewritable.

Anordnung, um optische Speicheranlagen des WORMtyps scheinbar neuschreibbar zu machen.

Système pour faire apparaître reinscriptibles des dispositifs de mémoire optique à écriture unique et à lecture multiple.

PATENT ASSIGNEE:

GENERAL ELECTRIC COMPANY, (203903), 1, River Road, Schenectady New York 12345, (US), (applicant designated states: DE;FR;GB)

INVENTOR:

Jones, Phillip Warren, 3220 South 149th Street, New Berlin Wisconsin 53151, (US)

LEGAL REPRESENTATIVE:

Pratt, Richard Wilson et al (46454), London Patent Operation G.E. TECHNICAL SERVICES CO. INC. Burdett House 15/16 Buckingham Street, London WC2N 6DU, (GB)

PATENT (CC, No, Kind, Date): EP 273665 A2 880706 (Basic)
EP 273665 A3 900606

APPLICATION (CC, No, Date): EP 87311230 871221;

PRIORITY (CC, No, Date): US 275 870102

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS (V7): G06F-012/08

CITED REFERENCES (EP A):

ELEKTRONISCHE RECHENANLAGEN, vol. 18, no. 5, 1976, pages 214-219, München, DE; J. WITTE: "Holographische Arbeitsspeicher"

IDEM

IDEM

IBM TECHNICAL DISCLOSURE BULLETIN, vol. 18, no. 3, August 1975, pages 654-655, New York, US; A. BHATTACHARAYYA et al.: "Small system organization for a nonvolatile mass memory"

MINI-MICRO SYSTEMS, no. 7, 19th May 1986, pages 31-33, Newton, Massachusetts, US; MIKE SEITHER: "Optotech adds SCSI controller to 5 1/4-inch optical disk drive"

COMPCON SPRING'87, 23rd-27th February 1987, San Francisco, CA US, pages 142-145, IEEE, New York, US; Y. KINOCHI et al.: "A survey of very large capacity on-line file systems using optical disks";

ABSTRACT EP 273665 A2

A system for Write Once Read Many (WORM) optical storage devices to appear rewritable used magnetic disk storage and optical WORM storage subsystem. All new write operations are made to a magnetic cache storage (28) which resides on the magnetic disk subsystem. A Least Recently Written (LRW) technique is used to determine which valid data in cache storage is the oldest, and this is transferred to the WORM storage (30) when room for new data is required. In this manner all new write operations are performed to the magnetic cache storage and only the oldest valid data is transferred to WORM storage optimizing its use.

ABSTRACT WORD COUNT: 109

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 880706 A2 Published application (A1with Search Report ;A2without Search Report)

Search Report: 900606 A3 Separate publication of the European or International search report

Examination: 910123 A2 Date of filing of request for examination: 901122

Change: 920401 A2 Representative (change)

Examination: 931208 A2 Date of despatch of first examination report: 931026

Withdrawal: 940914 A2 Date on which the European patent application

was deemed to be withdrawn: 940308

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	261
SPEC A	(English)	EPABF1	3045
Total word count - document A			3306
Total word count - document B			0
Total word count - documents A + B			3306

INTERNATIONAL PATENT CLASS (V7): G06F-012/08

...SPECIFICATION systems to be used in conventional ways by conventional computer systems. Because of the non- **rewritable** nature of **WORM** media, it is assumed that a true **delete** function cannot be implemented. This is normally not a problem since the primary use of...

23/5,K/4 (Item 4 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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01161916 **Image available**

**WRITE-ONCE-READ-MANY STORAGE SYSTEM AND METHOD FOR IMPLEMENTING THE SAME
SYSTEME MEMOIRE A DISQUE OPTIQUE NON-REINSCRIPTIBLE ET SON PROCEDE DE MISE
EN OEUVRE**

Patent Applicant/Assignee:

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(Residence), US (Nationality), (For all designated states except: US)

Inventor(s):

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HELLER Jeffrey L, 904 Theresa Court, Menlo Park, CA 94025, US,
WAGNER J Christopher, 5120 Crawford Road, Langley, WA 98260, US,

Legal Representative:

LOGINOV William A (et al) (agent), Cesari and McKenna, LLP, 88 Black
Falcon Avenue - Suite 271, Boston, MA 02210, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200484010 A2 20040930 (WO 0484010)
Application: WO 2004US6836 20040305 (PCT/WO US04006836)
Priority Application: US 2003391245 20030318

Designated States:

(All protection types applied unless otherwise stated - for applications
2004+)

AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM
DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC
LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO
RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PL PT RO
SE SI SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) BW GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class (v7): **G06F**

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 10426

English Abstract

A write-once-read-many (WORM) storage system that employs large-capacity and relatively inexpensive disks in connection with a file system on a file server is provided. The file system contains most or all of the required WORM functionality so as to impose a minimal footprint on client applications, client operating systems and open protocols if desired. The system is organized around WORM storage volumes that contain files that, when committed to WORM storage, cannot be deleted or modified. Any file path or directory tree structure used to identify the file within the WORM volume is locked and cannot be deleted. In one embodiment, the administrator creates a WORM volume, capable of storing designated WORM files. The client then creates an appropriate WORM file using the appropriate protocol semantics. The file is written to the volume and committed by transitioning the file attributes from a not-read-only to a read-only state. The file system recognizes the persistently stored WORM attribute of any file in a WORM volume as WORM file. Henceforth, any attempt to modify the file attributes, write to the file, or delete the file, by clients, administrators or other entities is rejected and a request denied message is returned to the attempting party.

French Abstract

La presente invention a trait a un systeme memoire a disque optique non-reinscriptible (WORM) utilisant des disques de grande capacite

relativement peu couteux en connexion avec un systeme de fichiers sur un serveur de fichiers. Le systeme de fichiers contient la majorite ou la totalite de la fonctionnalite WORM requise pour imposer une encombrement minimal sur des applications client, des systemes d'exploitation clients et des protocoles planetaires le cas echeant. Le systeme est organise autour de volumes de stockage WORM qui contiennent des fichiers qui, lors de leur sauvegarde dans le stockage WORM, ne peuvent etre effaces ou modifies. Tout chemin de fichiers ou toute structure arborescente de repertoires utilises pour l'identification du fichier au sein du volume WORM est verrouille et ne peut etre efface. Dans un mode de realisation, l'administrateur cree un volume WORM capable de stocker des fichiers WORM designes. Le client cree ensuite un fichier WORM approprie utilisant les semantiques de protocole appropriees. Le fichier est inscrit au volume et sauvegarde par la transition des attributs du fichier depuis un etat reinscriptible en un etat non reinscriptible. Le systeme de fichiers reconnait l'attribut WORM de memorisation persistante de tout fichier dans un volume WORM en tant que fichier WORM. Desormais, toute tentative de modification des attributs du fichier, d'inscription au fichier, ou de suppression du fichier, par des clients, administrateurs ou autres entites est refusee et un message de refus de requete est renvoye a la partie effectuant la tentative.

Legal Status (Type, Date, Text)

Publication 20040930 A2 Without international search report and to be republished upon receipt of that report.

Examination 20051027 Request for preliminary examination prior to expiration of applicable time limit under Rule 54bis.1(a)

Main International Patent Class (v7): G06F

Fulltext Availability:

Claims

Claim

... data containers in an organizational structure within the WORM storage volume that includes both **WORM** data containers that cannot be **rewritten** to or **deleted** 6 and non- **WORM** data containers that can be **rewritten** to and **deleted** . 1 1 S. The storage system as set forth in claim 17 further comprising a...

...A) a WORM storage volume that manages data containers in an organizational structure within the **WORM** storage volume that includes **WORM** data containers that cannot be **rewritten** to or **deleted** ; and

B) a non- **WORM** storage volume that manages data containers in an organizational structure within the **WORM** storage volume that includes data containers that can be **rewritten** to and **deleted** .

38 The storage system as set forth in claim 37 wherein the array of media

23/5,K/6 (Item 6 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00996758

**GLOBAL NETWORK COMPUTERS
ORDINATEURS DE RESEAU MONDIAL**

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Legal Representative:

LAZAR Dale S (et al) (agent), Pillsbury Winthrop LLP, 1600 Tysons
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Patent and Priority Information (Country, Number, Date):

Patent: WO 200325725 A2-A3 20030327 (WO 0325725)

Application: WO 2002US29227 20020916 (PCT/WO US02029227)

Priority Application: US 2001322474 20010917; US 2001323701 20010921

Designated States:

(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)

AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ
EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI
SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LU MC NL PT SE SK TR

(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class (v7): **G06F-001/18**

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 34010

English Abstract

Embodiments useful for a network of computers are presented. In an embodiment, an apparatus includes a microchip and a Faraday Cage. The microchip includes a personal computer with a general purpose microprocessor on the microchip. The Faraday Cage surrounds at least a portion of the microchip. In another embodiment, an apparatus includes a microchip. The microchip includes a general purpose microprocessor and one or more photovoltaic cells.

French Abstract

L'invention comprend plusieurs modes de realisation utiles pour un reseau d'ordinateurs. Dans un mode de realisation, un appareil comprend une micropuce et une cage de Faraday. La micropuce comprend un ordinateur personnel, un microprocesseur polyvalent etant dispose sur cette micropuce. La cage de Faraday entoure une partie au moins de la micropuce. Dans un autre mode de realisation, un appareil est dote d'une micropuce comprenant un microprocesseur polyvalent et une ou plusieurs cellules photovoltaiques.

Legal Status (Type, Date, Text)

Publication 20030327 A2 Without international search report and to be republished upon receipt of that report.

Search Rpt 20040408 Late publication of international search report

Republication 20040408 A3 With international search report.

Republication 20040408 A3 Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

Main International Patent Class (v7): **G06F-001/18**

Fulltext Availability:
Detailed Description

Detailed Description

... to be effectively erased. Any new network file on non-volatile memory with only a **write - once** capability can be **erased by overwriting** all "O's" to "Ps", so that, for example, the network data written on a...

23/5,K/11 (Item 11 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00155297 **Image available**

**SYSTEM FOR ACCESSING INFORMATION STORED AS A LINK-LIST WITH BACK-POINTERS
ON AN OPTICAL DISK BY USING THE BACK-POINTERS TO GENERATE A DIRECTORY
SYSTEME D'ACCES A DES INFORMATIONS ENREGISTREES SOUS FORME D'UNE LISTE A
LIAISONS AVEC DES RENVOIS SUR UN DISQUE OPTIQUE, LES RENVOIS ETANT
UTILISES POUR GENERER UN REPERTOIRE**

Patent Applicant/Assignee:

MAXIMUM STORAGE INC,

Inventor(s):

WOOTEN David R,

TAYLOR Thomas M III,

Patent and Priority Information (Country, Number, Date):

Patent: WO 8901663 A1 19890223

Application: WO 88US2801 19880816 (PCT/WO US8802801)

Priority Application: US 87417 19870817

Designated States:

(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)

AT AU BE CH DE FR GB IT JP LU NL SE

Main International Patent Class (v7): G06F-012/00

International Patent Class (v7): G06F-12:06 ; G06F-12:10 ; G06F-07:00 ;
G06F-07:06 ; G06F-07:10 ; G06F-07:22

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 5908

English Abstract

A system for recording and retrieving data on a recording medium (10), particularly useful in write-once media such as optical disks on which data (42) pertaining to a particular subject is periodically written or changed and is interrupted by other intervening information (39A). A set of data (42) or information (39A) affecting a directory is written onto the disk in a transaction together with back-pointers to a previous transaction affecting that data or directory. The system reads transaction in reverse order until encountering a transaction affecting a desired data (42) or directory (39A), and then reads and stores a description of the data (42) or the directory information (39A) in the transaction. The back-pointer directs the system to another previous transaction affecting that data (42) or directory (39A), and so on until the system has established a complete description of a desired data or directory information by reading all necessary portions of relevant transactions. Information pertaining to particular data or directories is periodically consolidated and recorded onto the medium (10) to reduce the back-pointing process.

French Abstract

Un systeme d'enregistrement et de recuperation de donnees sur un support d'enregistrement (10) convient particulierement a des supports non effacables tels que disques optiques, sur lesquels des donnees (42) concernant un sujet particulier sont periodiquement ecrites ou modifiees, ou intercalees avec d'autres informations (39A) ulterieurement ajoutees. Un ensemble de donnees (42) ou d'informations (39A) qui affecte le repertoire est ecrit sur le disque, pendant une operation, avec des renvois a des operations anterieures qui affectent lesdites donnees ou ledit repertoire. Le systeme lit les operations en ordre inverse jusqu'a rencontrer une operation qui affecte des donnees voulues (42) ou le repertoire (39A), puis lit et enregistre une description des donnees (42) ou les informations du repertoire (39A) contenues dans l'operation. Le

renvoi renvoie le systeme a une autre operation anterieure qui affecte lesdites donnees (42) ou ledit repertoire (39A), et ainsi de suite, jusqu'a ce que le systeme ait etabli une description complete des donnees voulues ou des informations du repertoire par la lecture de toutes les parties requises des operations pertinentes. Des informations concernant des donnees ou des repertoires particuliers sont periodiquement consolidees et enregistrees sur le support (10) afin de reduire le processus de renvoi.

Main International Patent Class (v7): **G06F-012/00**
International Patent Class (v7): **G06F-12:06** ...

... **G06F-12:10** ...

... **G06F-07:00** ...

... **G06F-07:06** ...

... **G06F-07:10** ...

... **G06F-07:22**

Fulltext Availability:
Detailed Description

Detailed Description

... Magnetic and other erasable media may have address blocks that can be updated by being **erased** and **rewritten** each time an additional information block is written. But because **write - once** media cannot be **erased**, **rewriting** the address blocks each time an information block is added would consume substantial additional storage...